Basic Arithmetic in Geometry

Introduction

An outline of basic math moves in Geometry mainly concerning cardinal operations.

A primary mechanism required for language is the ratio. And it is on a biological level first. On a conscious level, one must understand that as things are to each other, so too our mental manipulations of things must be to each other. This identity between reality and mentality is call rationality. It then follows that people who habitually lie, being aware of it or not, are not rational. On a religious level, when one says that God is Truth, they are enunciating a standard in rationality—of judgment.

Cardinal and Ordinal Operations.

These techniques are primarily focused not on ordinal operations but on cardinal. An example of an ordinal operation is Euclid's Book 1:1. The operations here depend first upon the unit.

Contents

The Unit	Technique 1
Addition Subtraction	Technique 2
Number Construction	Technique 3
Unit Ratio	Technique 4
Fractions.	Technique 5
Ratio Two Numbers.	Technique 6
Multiplication	Technique 7
Division	Technique 8

Basic Techniques

Technique 1. To construct a unit.

With a given line, assert two points.

$\overline{A0B1}$ is the unit by convention.

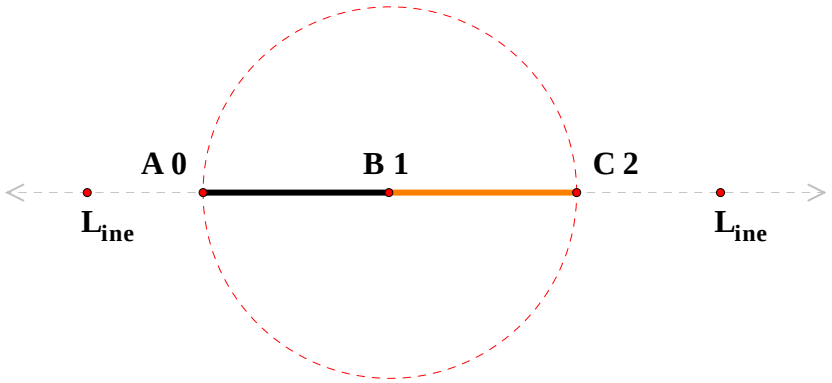
Every formal logic starts the same way—Arithmetic with the definition of the unit, so too in geometry. Craft is all about standards in construction and one starts by constructing our first standard.

Geometry is a relatiologic, which means the material difference is given, and the geometer asserts boundaries. The material difference in geometry is unspecified, of no concern to the geometer. He can neither add to, nor subtract from difference, he can only make things by asserting boundaries to it.

The construction of a unit is understood in this wise:—Between two assertions there is one and only one difference.

Note: Preserve both naming conventions, Geometric and Arithmetic.

Technique 2. To a given unit add another.



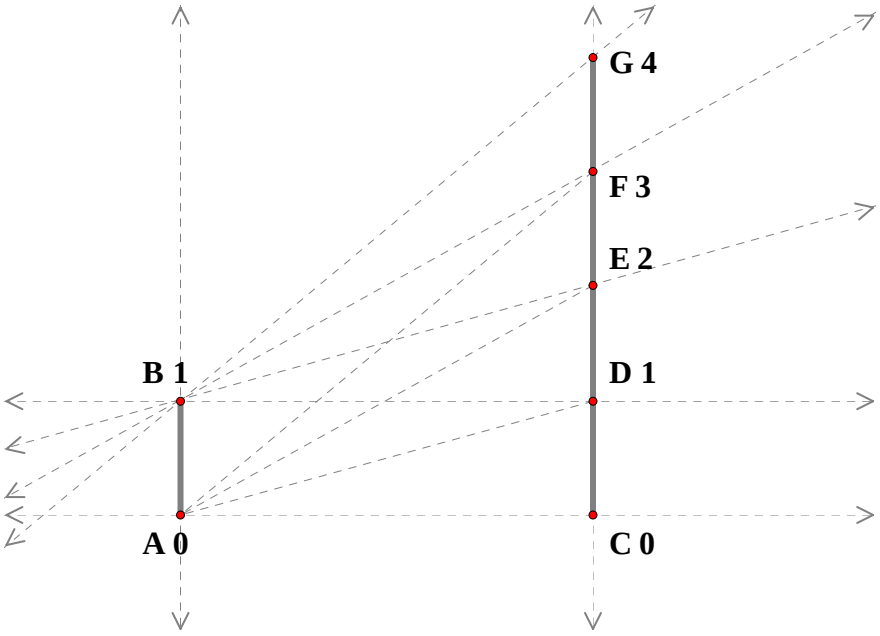
To a given line, Let $\overline{A1B0}$ be the given unit and to it, simply add another. Construct ⊙ B1A0.

$\overline{B1C2}$ is the required addition.

1 + 1 = 2 and 2 – 1 = 1.

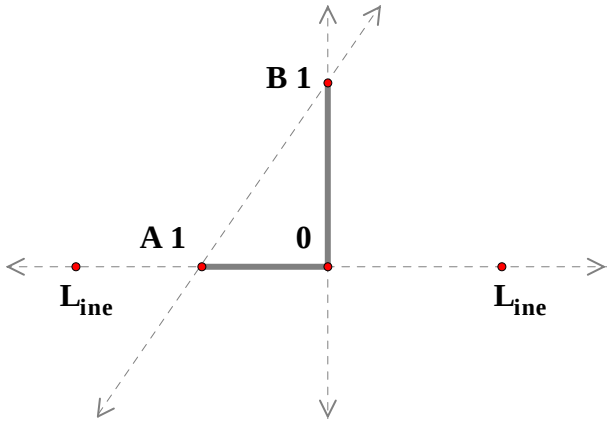
One need not drag this out for subtraction.

Technique 3: To construct a number.



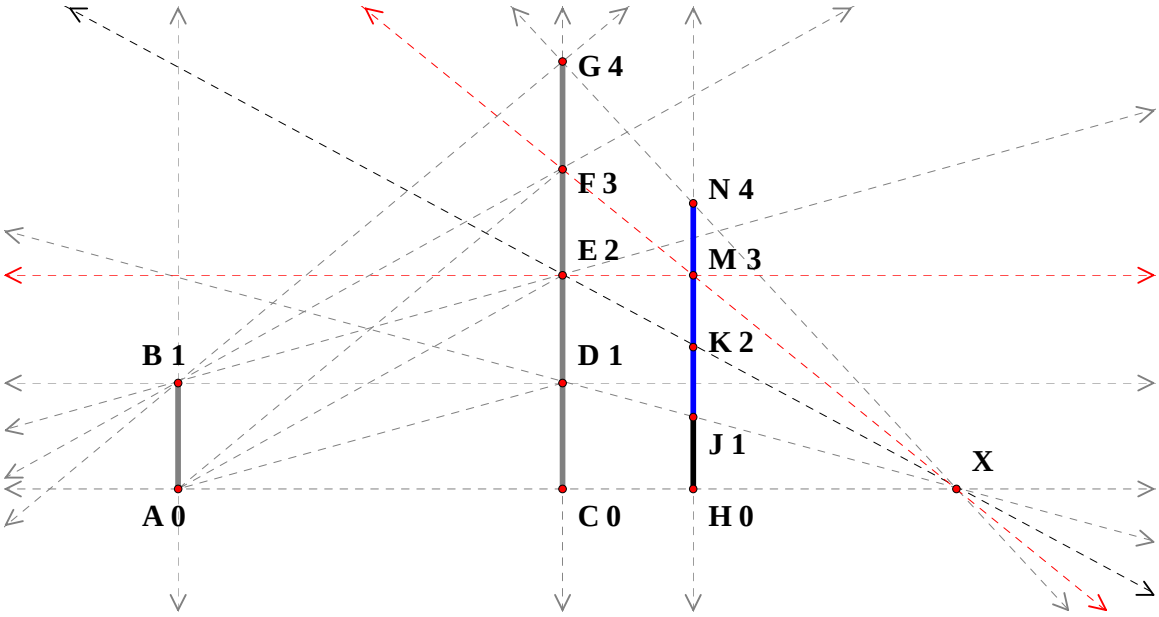
Given $\overline{A0B1}$ as our unit and 4 the number we are to construct, etc.,

Technique 4. To construct a ratio between linear units.



$\overline{0A1}$: $\overline{0B1}$ Is what was required .

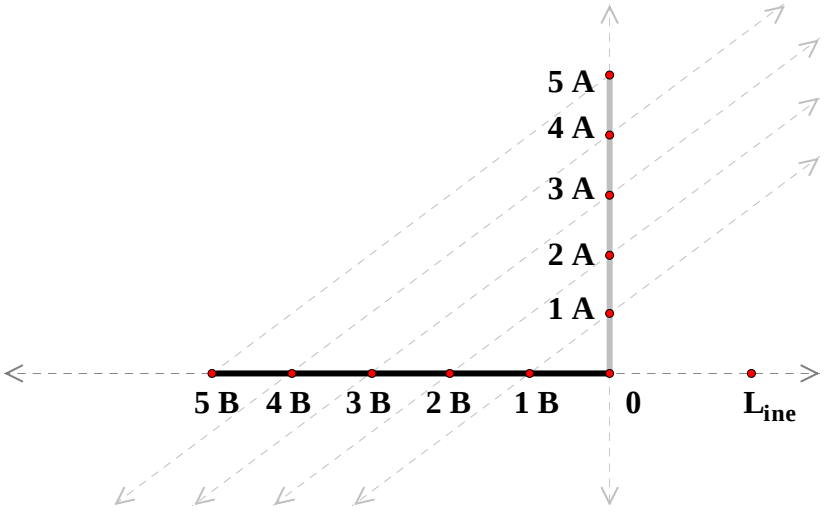
Technique 5. Construct a fraction.



Let $\overline{A0B1}$ be our given unit, and $\frac{2}{3}$ the fraction which we are to construct.

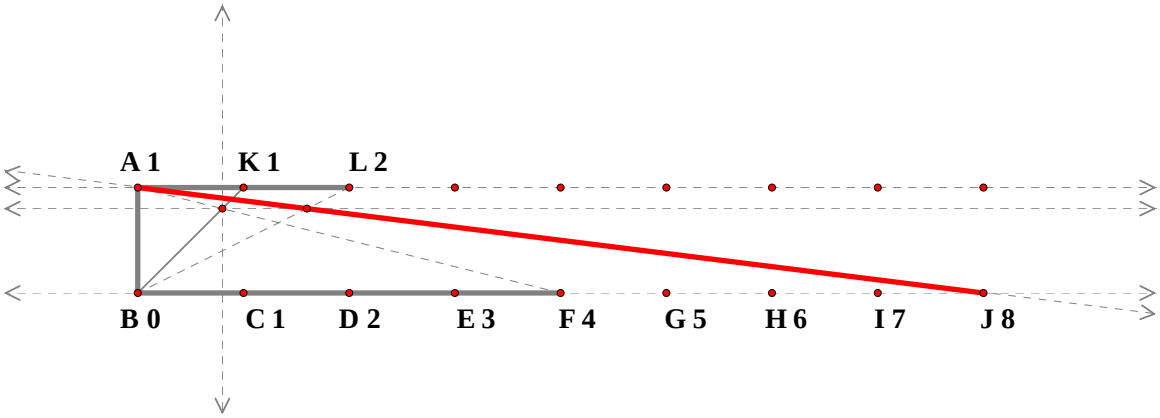
$\overline{H0J1}$ is $\frac{2}{3}$. Furthermore, I say that H0N4 is $\frac{4 \times 2}{3}$ . . .

Technique 6. Provide a ratio between numbers with two different units.



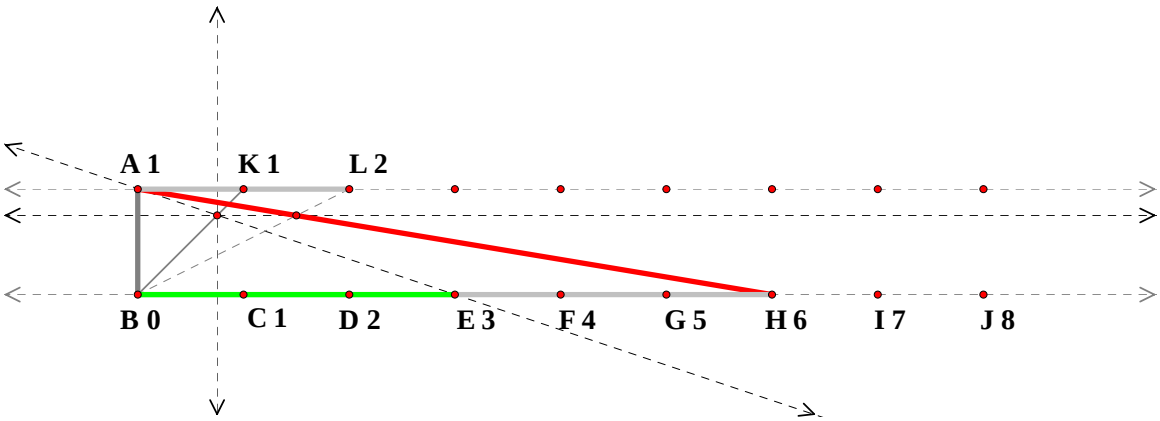
Let the numbers be 5 A and 5 B. Then 1A:1B :: 5A:5B.

Technique 7. Multiply two numbers.



With the given unit $\overline{A1B0}$ multiply 2 × 4.

Technique 8. Divide two numbers.



With the given unit $\overline{A1B0}$ divide 6 by 2.